

**IN THE SPECIFICATION:**

Please amend paragraph [00029] of the application as follows:

[00029] As the Applicant's own research now showed, the synergistically active mixtures according to the invention consisting of two, three or more straight-chain 1,2-alkanediols, the chain lengths of which (i) are different and (ii) in each case are in the range of 5 to 10 C atoms, not only have a good action against the germs already mentioned above but also against *Staphylococcus epidermidis*, *Brevibacterium epidermidis*, *Propionibacterium acnes* as well as against *Trichophyton* and *Epidermophyton* species, so that they can also be used as agents for the treatment (control) of underarm odour and foot odour and of body odour in general, as agents for the control of acne, as anti-dandruff agents and for the treatment of mycoses (in particular dermatomycoses ~~dermatomycoses~~—(sic)—) (again see Table 1).

Please amend paragraph [00040] of the application as follows:

[00040] Finally, the present invention also relates to corresponding antimicrobial compositions comprising:

- (a) a mixture of two, three or more straight-chain 1,2-alkanediols, the chain lengths of which (i) are different and (ii) in each case are in the range of 5 to 10 C atoms, and
- (b) an excipient compatible with the said mixture[[]],

~~And also~~ as well as antimicrobial compositions ~~(sic)~~ comprising:  
~~(e)~~ (a) a mixture of two, three or more straight-chain 1,2-  
alkanediols, the chain lengths of which (i) are different  
and (ii) in each case are in the range of 5 to 10 C atoms,  
as antimicrobial active compound, and  
~~(a)~~ (b) ~~(sic)~~ an excipient compatible with the said mixture  
and also, optionally,  
~~(b)~~ (c) ~~(sic)~~ a further antimicrobial active compound that does  
not comprise a straight-chain 1,2-alkanediol.

Please amend paragraph [00045] of the application as follows:

[00045] If the synergistic mixtures of 1,2-alkanediols according to the invention are used as active compounds for the preservation of organic material, a further preservative, or several further preservatives, can advantageously additionally be used. Preferably, preservatives such as benzoic acid, the esters and salts thereof, propionic acid and salts thereof, salicylic acid and salts thereof, 2,4-hexanoic acid (sorbic acid) and salts thereof, formaldehyde and paraformaldehyde, 2-hydroxybiphenyl ether and salts thereof, 2-zincsulphidopyridine-N-oxide, inorganic sulphites and bisulphites, sodium iodate, chlorobutanol, 4-ethylmercury-(II)-5-amino-1,3-bis(2-hydroxy)benzoic acid ~~4-ethylmercury-(II)-5-amino-1,3-bis(2-hydroxy)benzoic~~ ~~(sic)~~ ~~acid~~, salts and esters thereof, dehydratcetic (sic) acid, formic acid, 1,6-bis(4-amidino-2-bromophenoxy)-n-hexane and salts thereof, the sodium salt of ethylmercury-(II)-thiosalicylic acid,

phenylmercury and salts thereof, 10-undecylenic acid and salts thereof, 5-amino-1,3-bis(2-ethylhexyl)-5-methyl-hexahydropyrimidine, 5-bromo-5-nitro-1,3-dioxane, 2-bromo-2-nitro-1,3-propanediol, 2,4-dichlorobenzyl alcohol, N-(4-chlorophenyl)-N'-(3,4-dichlorophenyl)-urea, 4-chloro-m-cresol, 2,4,4'-trichloro-2'-hydroxy-diphenyl ether, 4-chloro-3,5-dimethylphenol, 1,1'-methylene-bis(3-(1-hydroxymethyl-2,4-dioximidazolidin-5-yl)urea), poly-(hexamethylene diguanide) hydrochloride, 2-phenoxyethanol, hexamethylenetetramine, 1-(3-chloroallyl)-3,5,7-triaza-1-azonia-adamantane chloride, 1(4-chlorophenoxy)-1(1H-imidazol-1-yl)-3,3-dimethyl-2-butanone, 1,3-bis-(hydroxy-methyl)-5,5-dimethyl-2,4-imidazolidinedione, benzyl alcohol, Octopirox, 1,2-dibromo-2,4-dicyanobutane, 2,2'-methylene-bis(6-bromo-4-chloro-phenol), bromo-chlorophene, mixture of 5-chloro-2-methyl-3(2H)-isothiazolinone and 2-methyl-3(2H)isothiazolinone ~~2-methyl-3(2H)isothiazlinone (sic)~~ with magnesium chloride and magnesium nitrate, 2-benzyl-4-chlorophenol, 2-chloracetamide, chlorhexidine, chlorhexidine acetate, chlorhexidine gluconate, chlorhexidine hydrochloride, 1-phenoxy-propan-2-ol, N-alkyl(C<sub>12</sub>-C<sub>22</sub>)trimethyl-ammonium bromide and chloride, 4,4-dimethyl-1,3-oxazolidine, N-hydroxymethyl-N-(1,3-di(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl)-N'-hydroxy-methyl urea, 1,6-bis(4-amidino-phenoxy)-n-hexane and salts thereof, glutaraldehyde 5-ethyl-1-aza-3,7-dioxabicyclo(3.3.0)octane, 3-(4-chlorophenoxy)-1,2-propanediol, hyamine, alkyl-(C<sub>8</sub>-C<sub>18</sub>)-dimethyl-benzyl-ammonium chloride, alkyl-(C<sub>8</sub>-C<sub>18</sub>)-dimethyl-benzyl ammonium bromide, alkyl-(C<sub>8</sub>-C<sub>18</sub>)-dimethyl-benzylammonium saccharinate, benzylhemiformal, 3-iodo-2-propinyl-butyl carbamate, ~~sodium~~ ~~hydroxymethyl-~~

~~aminoacetate~~ or sodium hydroxymethyl-aminoacetate ~~(sic)~~ are preferably chosen here. The advantage of active compound combinations consisting of (a) a synergistic mixture of 1,2-alkanediols according to the invention and (b) at least one further preservative, which surprisingly can be achieved, will be explained in more detail on the basis of Example 3.

Please amend paragraph [00048] of the application as follows:

[00048] If the synergistic mixtures of 1,2-alkanediols according to the invention are to be used for the antimicrobial treatment of a surface (for example of a human or animal body), a combination with (metal) chelating agents can be advantageous in some cases. In this context, (metal) chelating agents that are preferably to be used are, inter alia,  $\alpha$ -hydroxy fatty acids, phytic acid, lactoferrin,  ~~$\alpha$ -hydroxy (sic) acids~~  $\alpha$ -hydroxy acids, such as, inter alia, citric acid, lactic acid and malic acid, as well as humic acids, bile acids, bile extracts, bilirubin, biliverdin or EDTA, EGTA and derivatives thereof.

Please amend paragraph [00051] of the application as follows:

[00051] If the formulations according to the invention contain UVB filter substances, these can be oil-soluble or water-soluble. Advantageous oil-soluble UVB filters are, for example: 3-

benzylidenecamphor derivatives, preferably 3-(4-methylbenzylidene)camphor, 3-benzylidenecamphor; 4-aminobenzoic acid derivatives, preferably 2-ethylhexyl 4-(dimethylamino)-benzoate, amyl 4-(dimethylamino)benzoate, esters of cinnamic acid, preferably 2-ethylhexyl 4-methoxycinnamate, isopentyl 4-methoxycinnamate; esters of salicylic acid, preferably 2-ethylhexyl salicylate, 4-isopropylbenzyl salicylate, homomenthyl salicylate, derivatives of benzophenone, preferably 2-hydroxy-4-methoxybenzophenone, 2-hydroxy-4-methoxy-4'-methylbenzophenone, 2, 2'-dihydroxy-4-methoxybenzophenone, esters of benzalmalonic acid, preferably di(2-ethylhexyl) 4-methoxybenzalmalonate, 2,4,6-trianilino-(p-carbo-2'-ethyl-1'-hexyloxy)-1,3,5-triazine.

Advantageous water-soluble UVB filters are, for example, salts of 2-phenylbenzimidazole-5-sulphonic acid, such as the sodium, potassium or triethanolammonium salt thereof, and also the sulphonic acid itself; sulphonic acid derivatives of benzophenones, preferably 2-hydroxy-4-methoxybenzophenone-5-sulphonic acid and salts thereof; sulphonic acid derivatives of 3-benzylidenecamphor, such as, for example, 4-(2-oxo-3-bornylidenemethyl)benzenesulphonic acid, 2-methyl-5-(2-oxo-3-bornylidene-methyl)sulphonic acid and salts thereof and also 1,4-di(2-oxo-10-sulpho-3-bornylidenemethyl)-benzene and salts thereof (the corresponding 10-sulphato compounds, for example the corresponding sodium, potassium or triethanolammonium salt) and also benzene-1,4-di(2-oxo-3-bornylidene)methyl-10-sulphonic ~~benzene-1,4-di(2-oxo-3-bornylidenemethyl-10-sulphonic~~ acid (sic).

Please amend paragraph [00054] of the application as follows:

[00054] A high content of treatment substances is usually advantageous in formulations containing synergistically active mixtures of 1,2-alkanediols for the topical prophylactic or cosmetic treatment of the skin. According to a preferred embodiment, the compositions contain one or more animal and/or vegetable treatment fats and oils, such as olive oil, sunflower oil, purified soya oil, palm oil, sesame oil, rapeseed oil, almond oil, borage oil, evening primrose oil, coconut oil, shea butter, jojoba oil, sperm oil, beef tallow, neatsfoot oil and lard, and also optionally further treatment constituents, such as, for example, fatty alcohols having 8-30 C atoms. Here the fatty alcohols can be saturated or unsaturated and straight-chain or branched. For example, decanol, decenol, octanol, octenol, dodecanol, dodecenol, octadienol, decadienol, dodecadienol, oleyl alcohol, ricinol ~~(s)e~~ alcohol, erucic alcohol, stearyl alcohol, isostearyl alcohol, cetyl alcohol, lauryl alcohol, myristyl alcohol, arachidyl alcohol, capryl alcohol, capric alcohol, linoleyl alcohol, linolenyl alcohol and behenyl alcohol, as well the guerbet alcohols thereof can be used, in which context it would be possible to extend the list virtually arbitrarily by further structurally chemically related alcohols. The fatty alcohols preferably originate from natural fatty acids, and usually are prepared from the corresponding esters of the fatty acids by reduction. Furthermore, fatty alcohol fractions that are formed from naturally occurring fats and fat oils by reduction, such as, for example, beef tallow, peanut oil, colza oil,

cottonseed oil, soya oil, sunflower oil, palm kernel oil, linseed oil, maize oil, castor oil, rapeseed oil, sesame oil, cocoa butter and cocoa fat, can be used.

Please amend paragraph [00058] of the application as follows:

[00058] Cosmetic formulations that contain synergistic mixtures of 1,2-alkanediols according to the invention can also contain antioxidants, it being possible to use all antioxidants suitable or customary for cosmetic and/or dermatological applications. Advantageously, the antioxidants are selected from the group consisting of amino acids (for example glycine, histidine, tyrosine, tryptophan) and the derivatives thereof, imidazoles (for example urocanic acid) and the derivatives thereof, peptides such as D, L-carnosine, D-carnosine, L-carnosine and the derivatives thereof (for example anserine), carotinoids, carotenes (for example  $\alpha$ -carotene,  $\beta$ -carotene, lycopene) and the derivatives thereof, lipoic acid and the derivatives thereof (for example dihydrolipoic acid), aurothioglucose, propylthiouracil and other thiols (for example thioredoxin, glutathione, cysteine, cystine, cystamine and the glycosyl, N-acetyl, methyl, ethyl, propyl, amyl, butyl, ~~and lauryl~~ lauryl ~~(-ste)~~, palmitoyl, oleyl,  $\gamma$ -linoleyl, cholesteryl and glyceryl esters thereof) as well as the salts thereof, dilauryl thiodipropionate, distearyl thiodipropionate, thiodipropionic acid and the derivatives thereof (esters, ethers, peptides,

lipids, nucleotides, nucleosides and salts) and also sulphoximine compounds (for example buthionine sulphoximines, homocysteine sulphoximine, buthionine sulphones, penta-, hexa-, hepta-thionine sulphoximine) in very low tolerated doses, and also (metal) chelating agents, for example  $\alpha$ -hydroxy fatty acids, palmitic acid, phytic acid, lactoferrin,  $\alpha$ -hydroxy acids (for example citric acid, lactic acid, malic acid), humic acid, bile acid, bile extracts, bilirubin, biliverdin, EDTA, EGTA and the derivatives thereof, unsaturated fatty acids and the derivatives thereof (for example  $\gamma$ -linolenic acid, linoleic acid, oleic acid), folic acid and the derivatives thereof, ubiquinone and ubiquinol and the derivatives thereof, Vitamin C and derivatives (for example ascorbyl palmitate, Mg ascorbyl phosphate, ascorbyl acetate), tocopherols and the derivatives thereof (for example ~~vitamin~~ Vitamin E acetate ~~(sic)~~), Vitamin A and the derivatives thereof (Vitamin A palmitate) and also coniferyl benzoate of benzoin resin, rutinic acid and the derivatives thereof, ferrulic acid and the derivatives thereof, butylhydroxytoluene, butylhydroxyanisole, nordihydroguaiacic acid, nordihydroguaiaretic acid, trihydroxybutyrophenone, uric acid and the derivatives thereof, mannose and the derivatives thereof, zinc and the derivatives thereof (for example ZnO, ZnSO<sub>4</sub> ~~ZnSO<sub>4</sub>~~ ~~(sic)~~), selenium and the derivatives thereof (for example selenium methionine), stilbenes and the derivatives thereof (for example stilbene oxide, trans-stilbene oxide) and also derivatives (salts, esters, ethers, sugars, nucleotides, nucleosides, peptides and lipids) of the said active compounds.



Please amend paragraph [00063] of the application as follows:

[00063] Cosmetic formulations that contain synergistic mixtures of 1,2-alkanediols according to the invention can also contain mono- di- and oligo-saccharides, such as, for example, glucose, galactose, fructose, mannose, ~~fructose (sic)~~ and lactose.

Please amend paragraph [00078] of the application as follows:

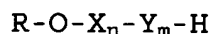
[00078] Formulations that contain synergistic mixtures of 1,2-alkanediols according to the invention and are in the form of an emulsion advantageously contain one or more emulsifiers. O/W emulsifiers can, for example, advantageously be chosen from the group comprising the polyethoxylated or polypropoxylated or polyethoxylated and polypropoxylated products, for example:

- the fatty alcohol ethoxylates
- the ethoxylated wool wax alcohols,
- the polyethylene glycol ethers of the general formula  $R-O-(-CH_2-CH_2-O-)_n-R'$ ,
- the fatty acid ethoxylates of the general formula  $R-COO-(-CH_2-CH_2-O-)_n-H$ ,
- the etherified fatty acid ethoxylates of the general formula  $R-COO-(-CH_2-CH_2-O-)_n-R'$ ,
- the esterified fatty acid ethoxylates of the general formula  $R-COO-(-CH_2-CH_2-O-)_n-C(O)-R'$ ,
- the polyethylene glycol glycerol fatty acid esters

- the ethoxylated sorbitan esters
- the cholesterol ethoxylates
- the ethoxylated triglycerides
- the alkyl ether carboxylic acids of the general formula  
$$R-COO-(-CH_2-CH_2-O-)_n-OOH$$
, and n represents ~~represent (sic)~~ a number from 5 to 30,
- the polyoxyethylene sorbitol fatty acid esters,
- the alkyl ether sulphates of the general formula  $R-O-(-CH_2-CH_2-O-)_n-SO_3-H$
- the fatty alcohol propoxylates of the general formula  
$$R-O-(-CH_2-CH(CH_3)-O-)_n-H$$
- the polypropylene glycol ethers of the general formula  
$$R-O-(-CH_2-CH(CH_3)-O-)_n-R'$$
- the propoxylated wool wax alcohols,
- the esterified fatty acid propoxylates  $R-COO-(-CH_2-CH(CH_3)-O-)_n-R'$
- the esterified fatty acid propoxylates of the general formula  
$$R-COO-(-CH_2-CH(CH_3)-O-)_n-C(O)-R'$$
- the fatty acid propoxylates of the general formula  
$$R-COO-(-CH_2-CH(CH_3)-O-)_n-H$$
,
- the polypropylene glycol glycerol fatty acid esters
- the propoxylated sorbitan esters
- the cholesterol propoxylates
- the propoxylated triglycerides
- the alkyl ether carboxylic acids of the general formula  
$$R-O-(-CH_2-CH(CH_3)-O-)_n-CH_2-COOH$$
,
- the alkyl ether sulphates and the acids on which these sulphates are based of the general formula



- the fatty alcohol ethoxylates/propoxylates of the general formula



- the polypropylene glycol ethers of the general formula  $R-O-X_n-Y_m-R'$

- the esterified fatty acid propoxylates of the general formula  $R-COO-X_n-Y_m-R'$

- the fatty acid ethoxylates/propoxylates of the general formula  $R-COO-X_n-Y_m-H$ .

Please amend paragraph [00107] of the application as follows:

[00107] The antimicrobial action of 1,2-diols and of the diol mixtures according to the invention was demonstrated with the aid of the agar dilution method based on DIN 58 940/ICS and DIN 58 944/ICS. Petri dishes 9.0 cm in diameter were charged with 13.5 ml freshly prepared Mueller-Hinton agar (Merck, Ref. 1.05437 or Wilkins-Chalgren agar boullion ~~beillon~~-(sic), Oxoid, Ref. CM 643, supplemented with 10g agar-agar/litre) kept liquid at 50° C, to which the various concentrations of the diluted samples were added in 10% (V/V) = 1.5 ml. Mueller-Hinton agar that contained 3% Tween80 (Merck, Ref. 8.22 187) was used for the test germ *Malassezia furfur*.

Please amend paragraph [00130] of the application as follows:

U.S. Application No.: 10/502,132  
SUPPLEMENTAL PRELIMINARY AMENDMENT

Attorney Docket: 3968.120

[000130] By way of example the calculation of the SI value for the treatment of *Aspergillus niger* with a mixture consisting of 1,2-hexanediol, 1,2-octanediol and Euxyl K400 (formulation C) after an incubation phase of 28 days is shown below. The calculated SI of 0.066 clearly shows that the mixture consisting of 1,2-hexanediol, 1,2-octanediol and Euxyl ~~Euxy~~-(sic) K400 is a highly synergistic combination of active compounds.